English

MX15
Measuring Unit

INSTALLATION AND OPERATING INSTRUCTIONS

AFAQ ISO 9001

CE

Fabrication française

Code: 05 MT MX15 GB01

Warnings

Read these instructions carefully before installation and start-up particularly to ensure compliance with the instructions regarding the safety of the equipment in respect to the intermediary or final user.

The electrical installation and connections should be performed by qualified personnel in accordance with the manufacturer instructions and the standards of competent authorities in the industry.

Non-compliance with the instructions may have a serious impact on people's safety. Strict compliance is required particularly for electrical installation and assembly (connections, service lines).

Any modification of the equipment as well as use of unauthorized parts will result in cancellation of any warranty.

The control unit is designed to be used for specific purposes that are indicated in the technical specifications. It is not authorized to exceed the specified values in any case.

This document is not contractually binding. In the interests of its customers, INDUSTRIAL SCIENTIFIC CORPORATION reserves the right to modify the technical specifications of its equipment without notice in order to improve its performance.

Warning Signs

Operating ground terminal

Attention! Risk of electric shock.

Attention (see accompanying documents)

INDUSTRIAL SCIENTIFIC CORPORATION

GAS DETECTION AND DUST ANALYSIS

Thank you for choosing an **INDUSTRIAL SCIENTIFIC CORPORATION** unit.

We have taken all the required measures to guarantee that our equipment meets your expectations.

It is important now that you carefully read the following document.

LIMITATIONS OF LIABILITY

* **INDUSTRIAL SCIENTIFIC CORPORATION** disclaims responsibility towards any individual for damage to the equipment, physical injury or death resulting fully or partially from inappropriate use, and/or installation or storage of equipment that does not comply with the instructions and warnings and/or with existing standards and regulation.

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* **INDUSTRIAL SCIENTIFIC CORPORATION** shall not be liable for direct and indirect losses as well as direct and indirect damages resulting from the sale and use of all its products **IF THESE PRODUCTS HAVE NOT BEEN DEFINED AND SELECTED BY INDUSTRIAL SCIENTIFIC CORPORATION FOR THE PURPOSE THAT THE BUYER USES THEM.**

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WARNINGS

***** This document is not contractually binding. In the interest of its customers, **INDUSTRIAL SCIENTIFIC CORPORATION** reserves the right to modify the technical specifications of its equipment without notice in order to improve its performance.

* **CAREFULLY READ THE MANUAL BEFORE FIRST USE OF THE EQUIPMENT:** this manual must be read by any individual who is or will be responsible for using, maintaining or repairing this equipment.

***** **This equipment will only provide the stated performance levels if it is used, maintained and repaired in accordance with the directives of INDUSTRIAL SCIENTIFIC CORPORATION, by INDUSTRIAL SCIENTIFIC personnel or personnel approved by INDUSTRIAL SCIENTIFIC CORPORATION**

WARRANTY

***** Two-year warranty under normal conditions of use for parts and labor (return to our shop), except for consumables (sensors, filters, etc.).

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I. Presentation

The MX15 measuring and alarm unit has been designed for simple facilities that do not require the implementation of an electrical cabinet.
The MX15 control unit can be connected to combustible or toxic gas detectors or oxygen detectors.

The sensor reading is displayed on the MX15 control unit and compared to alarm thresholds. In the event that the threshold is exceeded, the control unit activates the relays that can control external units.

The MX15 control unit consists of the following components:

- A wall case with access «hatch» to settings (potentiometers)
- A motherboard including all system components (power supply, display, relays and connectors
- A front face with tactile keys.

II. Technical specifications

1. Characteristics

Mounting	Box on DIN rail or wall mount
Dimensions:	185 * 157 * 67 mm
Materials:	ABS type plastic
Cable inputs/outputs:	3 cable gland type M20 cable diameter 5.5 to 12 mm 1 cable gland M16: diameter 4 to 8 mm direct input available through wall crossing
Protection:	IP31
Electric power supply	230 VAC or 115VAC upon request and 24 VDC
Consumed power:	16 VA
<u>Operating conditions</u>	
Ambient temperature:	-10 to +45°C
Storage temperature:	-10 to +40°C
Humidity:	5% to 95% non-condensed
Embedded audible alarm:	through buzzer

Number of measuring channels 1

Number of sensors:	*1 OLC10-type combustible gas detector or 2 OLC10 TWIN detectors for detection of methane, butane, propane in boiler rooms and GPL, GNV or H2 in parking lots *1 OLCT10-type combustible gas detector for detection of methane, butane, propane in boiler rooms and GPL, GNV or H2 in parking lots *1 to 5 detectors of same type OLCT10 for detection of CO, NO, NO2.
Cable length:	OLC10 and OLC10 TWIN: max. 300 m at 3x1.5 mm² (4x1.5 mm² between the two OLC10 TWIN) OLCT10 EXPLO: 1,000 m at 1.5 mm² OLCT10 TOX: 2,000 m at 1.5 mm²
Sensor reading:	continuous
Measuring ranges	programmable
Display	front
Type:	LCD screen 4 digits 7 segments, 3 characters 14 icon segments 4 LEDs
Description of unit and gas:	programmable by user in a list 3 characters edited by user
Keyboard:	through tactile keys for access to menus, indicator test, acknowledgment

Alarms

Type:	2 independent thresholds defined by user manual or automatic erasure by increasing or decreasing value through programming viewing through red indicator relay output (alarm 1 and 2)
Relays	2 independent alarm relays with positive/negative safety programmable by manufacturer. 1 out of order relay in positive safety break or make contact that may be configured on all relays using a jumper
Cutoff level	2A / 250 Volts AC/ 30 volts DC

Connection

Type:	spring terminals
Cable section:	maximum 2.5 mm²
Remote acknowledgment	through short circuit of 2 MX15 terminals, using an external potential-free dry contact (maximum 2 meters)

Certification

ATEX 94/9/CE Directive:	category (3)G for metrology in combustible gas detection EN 61779-1 and 4 in zones 2.
Low-voltage directive:	in accordance with EN 61010
Electromagnetic Compatibility Directive CEM:	in accordance with EN 50270

III. Detail specifications for use in Combustible Atmospheres in accordance with the ATEX 94/9/CE European Directive

The MX15 detection control unit, designed for measurement of combustible gas, is compliant with the requirements of the ATEX 94/9/CE European Directive regarding combustible atmospheres.

Thanks to its metrological performance, the MX15 control unit, associated with the INDUSTRIAL SCIENTIFIC CEX300 and OLC 10 detectors, is a safety device for ATEX Zone 2 classified areas. The control unit can also reduce the risk of explosion through information provided to external units.

The site manager where the equipment is installed should take into consideration and comply with the information in the following paragraphs. Refer to the provisions of the ATEX 1999/92/CE European Directive regarding the enhancement of safety and health of the workers exposed to risks of combustible atmospheres.

1. Specifications for mechanical and electrical installation in Classified Zone

Installation will be performed in accordance with existing standards, in particular, EN 60079-14, EN 60079-17 standards.

The MX15 control unit should not be exposed to mechanical vibrations and should be installed in a safe area, away from combustible atmospheres.

It is essential to refer to the operating and start-up instructions of the above-mentioned gas detectors in paragraph ‘Detail specifications for use in combustible atmospheres in accordance with the ATEX 94/9/CE European Directive.’

2. Metrological Specifications

The control unit complies with the metrological European standards EN61779 and EN61779-4 for methane (calibration gas), butane, propane and hydrogen (gas as per response curves), when the control unit is used with CEX300 and OLC 10 gas detectors.

In the event that the control unit is used with other types of sensors supplying a measuring current of 4/20 mA, they should comply with paragraph 1.5 of Appendix II of the Atex 94/9/CE Directive and be compatible with their characteristics (see control unit transfer curve).

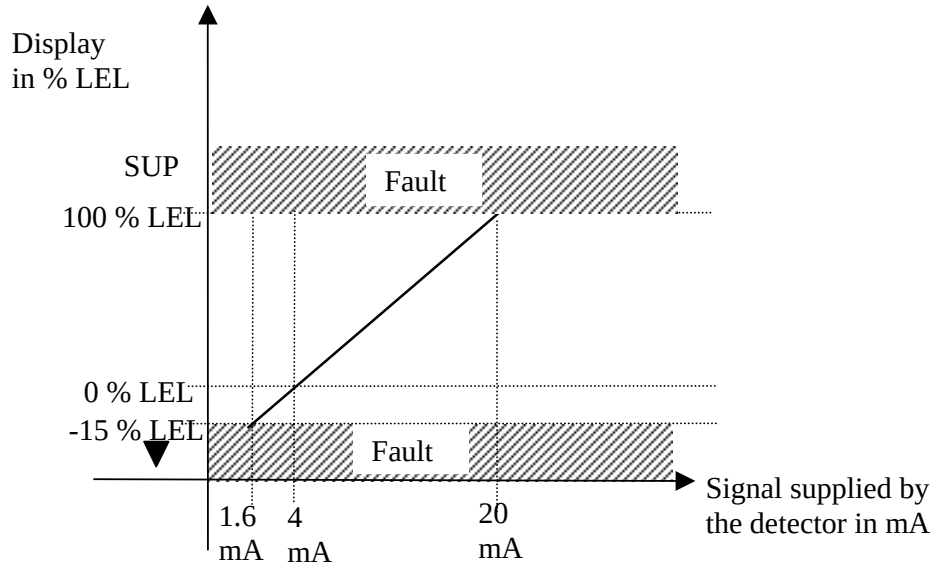
Note: the test vibrations in accordance with EN61779-4 paragraph 4.13 have not been performed because they do not apply due to the operating conditions of the MX15 control unit.

3. Connection of detectors other than INDUSTRIAL SCIENTIFIC to the MX15 control unit

As previously explained, the user who wants to connect detectors other than INDUSTRIAL SCIENTIFIC, should ensure that they are compatible with the control unit so that the unit is considered a safety device.

3.1. Transfer curves of control unit in configuration 0 at 100% LEL

The following curve provides a response to the control unit regarding the measured value and fault processing, based on the value of the input current supplied by the detector. In the event that the user connects a detector of a brand other than INDUSTRIAL SCIENTIFIC to the MX15 control unit, he/she should ensure that the transfer curve is compatible with the input characteristics of the control unit, so that the information provided by the detector is accurately interpreted. In addition, the control unit should supply a sufficient supply voltage taking into account the cable drops.



Caution: When the sensor reading is >= to 100% LEL, the measuring unit memorizes this scale overrun; the channel passes to alarm and fault mode. The resetting of this status is manual and is the responsibility of the user who should comply with the safety instructions of his/her site. The

resetting is either validated through an ON/OFF of the control unit or through a maintenance operation.

3.2. Power supply and load resistance characteristics

Maximum current available between terminals 2 and 3: 300 mA at 20 V.
Maximum no load voltage between terminals 2 and 3: 30 V
Load resistance between terminals 1 and 2: 47 ohms

4. Marking

INDUSTRIAL SCIENTIFIC Arras[a1]
CE
Ex II (3) G
OSA 05ATEX0120

IV. Control unit installation

1. Control unit mounting

Mounting is performed using a DIN rail, positioned so that it provides a 5 cm free area around the control unit.
The MX15 control should be installed in all facilities away from combustible atmospheres, preferably in a monitored area (control center, consol room, control room, etc.) and in a less humid (no condensation) and temperate environment (see chapters 2.1 and 3)

2. Control unit electrical connections

Electrical connections should:

- be performed by a specialist and while the control unit is off (power supply is shut off)
- comply with existing regulations (including NF C 15-100)
- has a minimum section of 1.5 mm² and a maximum section of 2.5 mm^2 for power supply from power system (230VAC)

Check the current nature and network voltage (the network voltage should match the voltage specified on the control unit maker's plate).

2.1. Protective ground

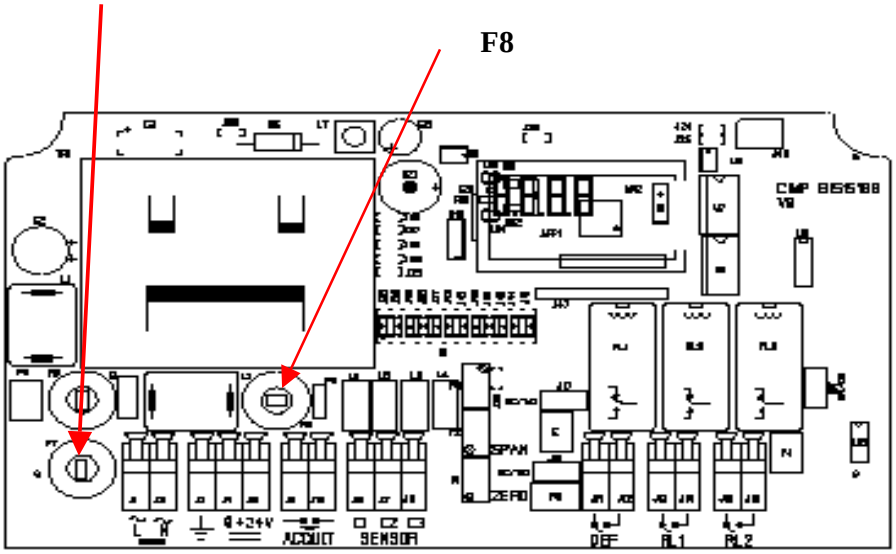
The control unit must be connected to an operating ground. The ground terminal (yellow ochre) is identified by the following symbol: ⏚
Refer to wiring examples at the end of the manual.

2.2. Power supply

2.2.1. Power supply 230 Volts (115VAC on request)

230VAC is standard power supply: protection is provided

- either through **F8**= 630 mA/250VAC
- either through **F6/F7** = 100 mA/250VAC



A special "**115VAC**" configuration is provided by the manufacturer upon request.

The control unit should be protected upstream through a bipolar differential circuit breaker.

The response curve is of type D.

The mains should be wired on the two terminals **L** (orange**)** and **N** (blue), as indicated in the wiring examples at the end of manual.

2.2.2. Power supply **24 VDC** (protection through F8) can be connected on terminals **COM** and **+24V**, as indicated in the wiring examples at the end of the manual.

2.3. Connections

2.3.1. Sensors

The various types of sensors should be connected on the **terminals C1, C2 and C3** (white) of the connector as indicated in the wiring examples at the end of manual.

The "Wheatstone bridge"-type "**combustible gas** " sensors with **3 active wires**:

C1: median point (signal)
C2: detector filament (-)
C3: compensator filament (+)

Sensors/transmitters **4/20 mA** with **2 active wires** :

C1: signal (current return to ground)
C2: not connected
C3: positive power supply (+24 Volts)

Sensors/transmitters **4/20 mA** with **3 active wires** :

C1: signal (current return to ground)
C2: power supply COM
C3: positive power supply +24 Volts

1. For each sensor family, the manufacturer will insert a programming support (Explo 340mA or 4 -20mA) to the circuit: see above figure.
2. **Note**: if several OLCT10 toxic sensors are connected (maximum 5), programming of the electronic circuit is required, which should be performed by an authorized person.

**Jumpers for Connecting Multiple Sensors:

1-sensor = no jumper required
2-sensors = jumper J-28
3-sensors = jumper J-28, J-27
4-sensors = jumper J-28, J-27, J-29
5-sensors = jumper J-28, J-27, J-29, J-30

2.3.2. Alarm relays

The MX 15 control unit has two alarm relays corresponding to two pre-programmed instant alarm thresholds.

The relays are in positive safety (negative upon request) and potential-free.

REL1 terminals match the relay 1 contacts (alarm 1).

REL2 terminals match the relay 2 contacts (alarm 2).

The relay contacts can be used “normally open or closed” moving the appropriate jumper (next to relays)

The relay contacts are potential-free.

Refer to the wiring examples at the end of manual.

2.3.3. Fault relays

The fault relay is in positive safety.

The DEF terminals match the fault relay contacts (fault).
The relay contacts can be used “normally open or closed” moving the appropriate jumper (next to the relay)

The relay contacts are potential-free.

Refer to the wiring examples at the end of the manual.

2.3.4. Remote acknowledgment

A pushbutton for "remote acknowledgment" may be connected to the MX15 control unit to the "acknowledgment" terminals (dry and potential-free contacts) at a maximum 2-meter distance.
Refer to the wiring examples at the end of manual.

VI. Operating instructions

1. Instructions on the display upon activation:

Upon activation of the control unit a list of information is automatically displayed on the display unit: software version, maintenance access code, pre-programmed alarm thresholds, stabilization time sheet, etc. and then the sensor reading continuously supplied by the sensor.

1.1. Measuring channel display

The MX 15 control unit continuously displays the sensor reading; however, by simultaneously pressing the + and – keys of the front keyboard, the sensor reading will be replaced with an interrupted line on the display unit.
To return to the sensor reading display, press one of the two keys, + or - .
To return to normal operation, simultaneously press the + and – keys.

2. Menus

Reminder: for safety purposes, only authorized and trained individuals are permitted to use the following menus.

2.1. Menu viewing

To exit the normal operating mode and access the menu list, use the front keyboard:

- press the **MENU** key
- use **+ / - and ENTER** keys, validate the standard access code « **1000** »
- use + or – key to view the available menus, such as:

PROGRAMMING (PRG)
USI (factory calibration) *
INITIALIZATION (INI)
CODE (COD)
BUZZER (BUZ)
TEST (TST)

*** the USI menu is not detailed below because it is only reserved for the manufacturer: never use it without previous training!**

2.2. Menu Selection

- display the desired menu as indicated in the previous chapter
- select this menu by pressing the **ENTER** key

2.3. To exit while viewing a menu (ECHAP)

Simultaneously press the **+** and **-** keys and then confirm/reject the saving of potentially modified parameters:

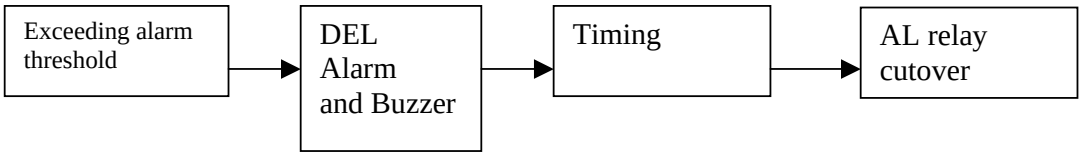
- press ENTER to abort without any change
- press «+», then ENTER to exit and save the changes.

2.4. Programming menu

A maintenance symbo is displayed while using the programming menu.

- This allows programming of parameters of the measuring channel such as:
  - On/off: yellow DEL is blinking
  - Detected gas chemical symbol (CH4 /CO, etc.)
  - Measuring unit (%LEL/ppm, etc.)
  - Measuring scale and decimal point (0.1/1.0/10/100/1000, etc.)
  - To program two gas alarm thresholds (characteristics): corresponding red DEL is on during this step
  - To select the erasure type of gas alarms:
    1. **manual (MAN)** = if the gas concentration again becomes lower than the preset alarm threshold, this alarm must be acknowledged manually by pressing the **acknowledgment key**
    2. or **automatic (AUT)** = if the gas concentration again becomes lower than the preset alarm threshold, the acknowledgment is automatic.
  - Timing (in minutes and seconds) of the alarm relay activation time: yellow DEL is blinking

Diagram of alarm activation



- Timing (in minutes and seconds) of the fault relay activation time: yellow DEL is on continuously
- Timing of the control unit upon activation (relays disabled): yellow DEL is blinking and the following icon is displayed.

- To indicate the type of sensor used, such as:
    - Bridge: in bridge (filaments), types OLC10, CEX300, etc.
    - EHP: EXPLO (explo. 4/20mA), type OLCT10, etc.
    - InC: fire (ionic, optical, etc.)
    - O2: oxygen
    - Aut: other (toxic, etc.)
- To change the maintenance mode, MAN or AUT:
    - **AUT**: Detection of detector calibration mode of this function (yellow DEL blinking on MX15)
    - **MAN**: No detection of detector calibration mode
- Timing (in minutes and seconds) upon exit of «calibration» menu (relays disabled)
- To save potentially modified parameters in this menu (yes or no):
    - If "**NO**" validated: the changes are not taken into contact
    - If "**YES**" validated: the new programming will be saved.

2.5. Initialization menu (INI)- Start-up

This menu is used to INITIALIZE the microprocessor based on the connected sensor
It is used in the following cases:

- by INDUSTRIAL SCIENTIFIC when new equipment is shipped
- during the first installation
- during a cell or sensor replacement

2.6. Code (access) menu

This menu changes the access code for various menus (**1000** in standard upon shipment of equipment):

- display the CODE menu (+ and – key)
- select it (enter)
- display current code
- indicate the new code using the + and – keys
- save this new code (enter)
- finally confirm it (yes/no/enter)

2.7. Buzzer menu

Allows or does not allow the use of the buzzer embedded to the MX15 control unit:

- display the BUZZER menu (+ and – keys)
- select it (enter)
- select **ON** (active buzzer) or **OFF** (buzzer off)
- finally confirm (yes/no/enter)

2.8. TEST menu (TST)

Disables the relays embedded to MX15 upon voluntary activation of alarms through injection of a standard gas on the sensor to test the alarms or to calibrate:

- display the **TST** menu (+ and – keys)
- select it (enter): yellow DEL is blinking

- yellow DEL is blinking, the TST message and the key are displayed, confirming that the relays are disabled during the test or calibration

Attention: this menu should be used for calibration after a first start-up.

INDUSTRIAL SCIENTIFIC recommends:
Gas detection instruments are potential life-saving devices. Recognizing this fact, Industrial Scientific Corporation recommends that a functional ("bump") test be performed on fixed gas-monitoring instruments as part of a regular maintenance program. A functional test is defined as a brief exposure of the monitor to a concentration of gas(es) in excess of the lowest alarm set-point for each sensor for the purpose of verifying sensor and alarm operation and is not intended to be a measure of the accuracy of the instrument.

Industrial Scientific recommends that a full calibration be performed using a certified concentration(s) of calibration gas(es) quarterly, every 3 months.* Calibrations may be necessary more or less frequently based, for example, on application, field conditions, exposure to gas, sensor technology, and environmental conditions. The frequency of calibration is best determined by company policy or local regulatory agencies. Please refer to the instrument user manual for specific details.

If an instrument fails to operate properly during any functional "bump" test or if an instrument experiences an alarm condition, a full instrument calibration should be performed.

These recommendations are based on safe work procedures, industry best practices, and regulatory standards to ensure worker safety. Industrial Scientific is not responsible for setting safety practices and policies.

* *For new installations it may be prudent to carry out bump tests frequently at first (perhaps weekly), increasing the time intervals (to, perhaps, monthly or more) as confidence grows with experience in the installation concerned, on the basis of the maintenance record.*

Reminder: for safety purposes, only authorized and trained individuals are permitted to use the following menus.

Procedure to be followed when the MX15 control unit is connected to an combustible gas sensor
(OLC10/CEX300, etc.):

- the TEST menu was selected (see above)
- remove the small cover on the front of MX15 to access the setting potentiometers
- adjust, if needed, the ZERO (read the display unit) using a zero potentiometer «**O**»

<u>Reminder</u>: make sure that you have clean air - otherwise inject air or nitrogen into the sensor (with calibration kit) with a flow rate of 60 l/h, then wait for the sensor reading to stabilize.

- Now inject the standard gas (60l/h) into the sensor and wait for the sensor reading to stabilize
- Make sure that the gas concentration is correct by reading the display unit
- Otherwise, adjust the sensitivity using a "**S**" potentiometer
- Disconnect the standard gas cylinder
- Wait for the "return to zero" on the display unit
- Press the TEST key to exit this menu
- The yellow "DEL" is off and the display unit indicates an interrupted line
- Press one of the two keys + or – to display the sensor reading, if needed
- Position the small cover in place.

Procedure to be followed when a MX15 control unit is connected to a transmitter 4-20 mA without a local maintenance device (calibration position switch, etc.) :

- Select the TEST menu to disable the relays of the control unit: see the beginning of this chapter
- Adjust the transmitter (see manual of relevant product)
- Make sure that the transmitter instructions (O and S) match those of the control unit. Refine the adjustments, if needed, of the control unit and, in this case, refer to the previous paragraph
- Upon completion of calibration, wait for the «return to zero» on the display unit of the control unit
- Press the TEST key to exit this menu
- Yellow "DEL" is off and the display unit shows an interrupted line
- Press one of the two keys + or – to display the sensor reading, if needed.

3. TESTING of relays and external controls

It is also recommended to periodically check alarm activation and the corresponding external controls.

4. Cleaning

Do not use alcohol or ammonia-based liquids to clean the control unit.
If needed, clean the outside of the case with a damp cloth.

5. Control unit maintenance

The control unit does not require special maintenance.
If sensor calibration is required, this operation should only be performed by qualified personnel.

- **REFER TO CHAPTERS 4.2.5 AND 4.2.8 (INITIALIZATION AND TEST)**
- **Do not forget to initialize the system upon sensor replacement: use the "INI" menu (chapter 4.2.5).**

6. Replacement of fuses

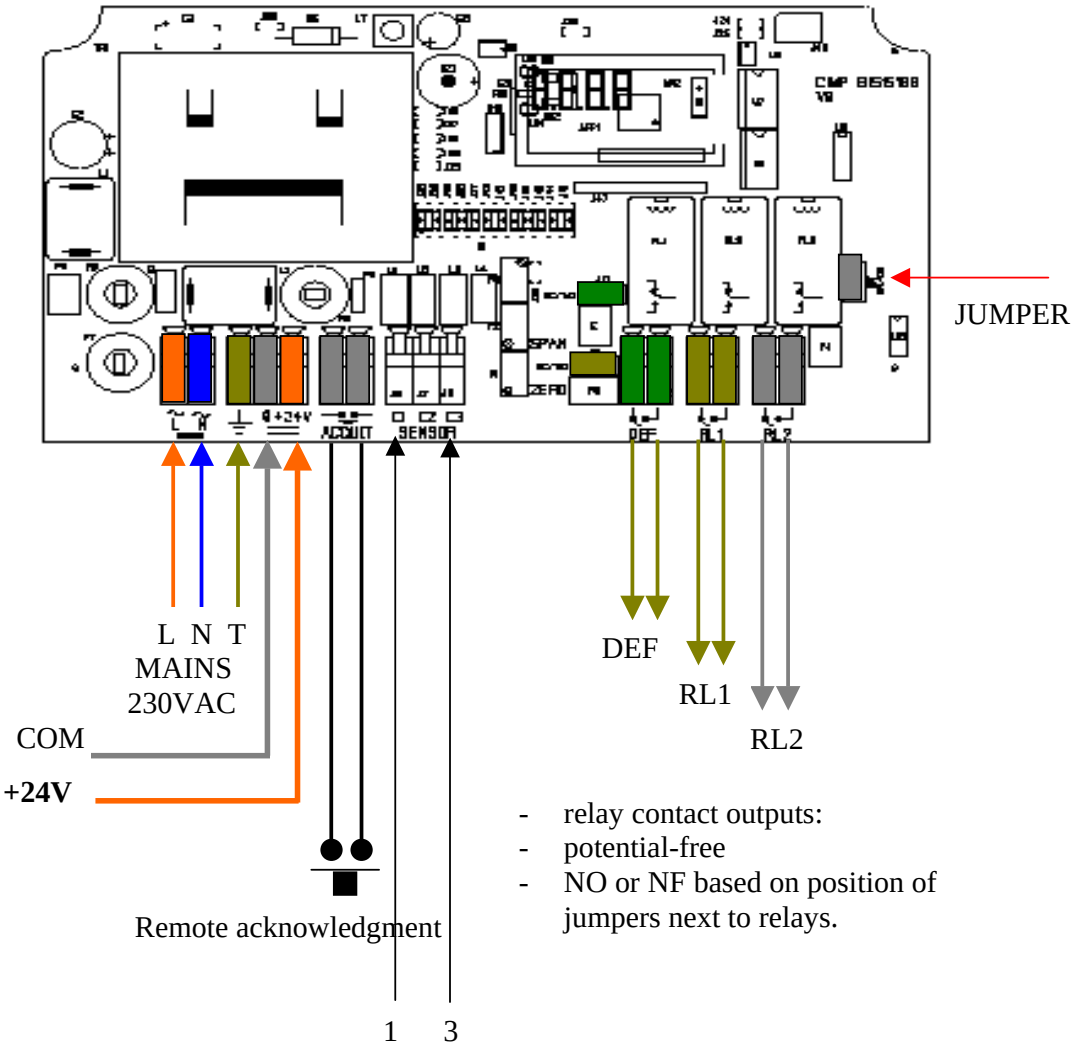
Fuse replacement should be performed only by qualified personnel.

List and type of fuses used in the MX15 control unit: the fuses used should comply with CEI 127, should be timed and have a low cutoff power.

VII. Spare parts

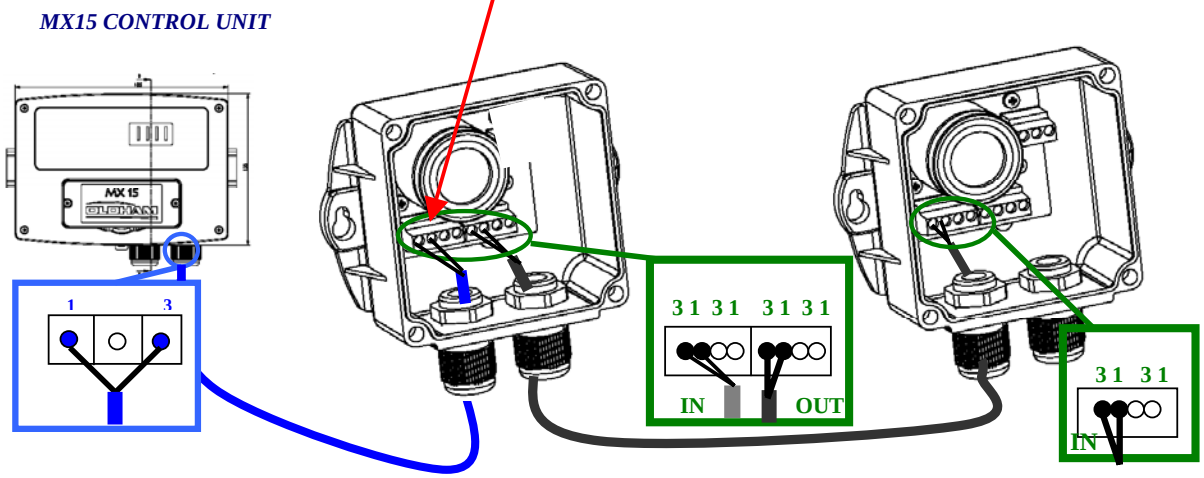
- Fuse 630 mA/ref. 6154627
- Full electronic map/ref. 6451569
- Potentiometer cover/ref. 6123711
- Cover retention screw /ref. 6902569
- Equipped ready front cover (self-adhesive front panel, small cover mounted, 4 screws)/ref. 6323648

VIII. Examples of connections

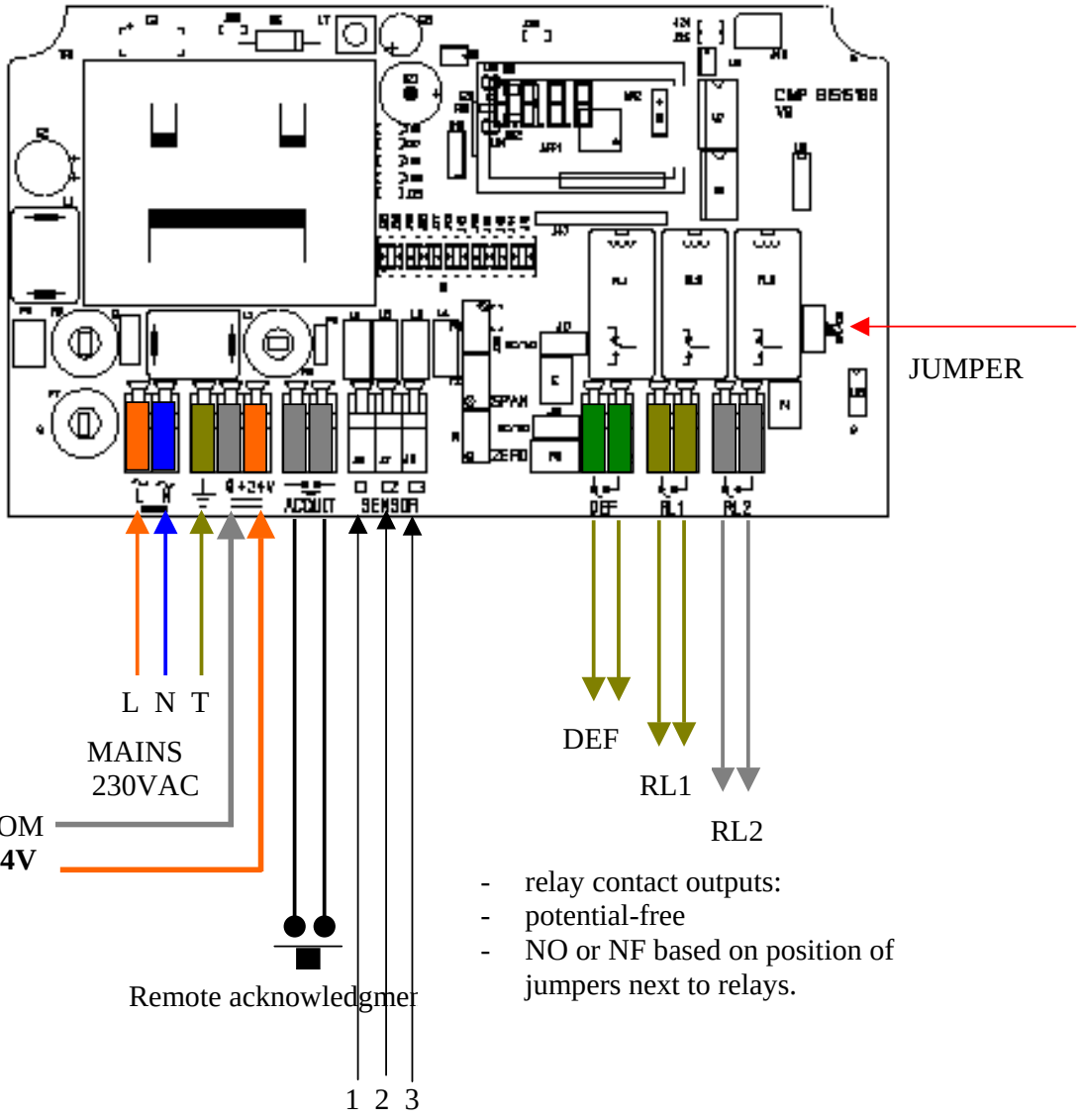


- relay contact outputs:
- potential-free
- NO or NF based on position of jumpers next to relays.

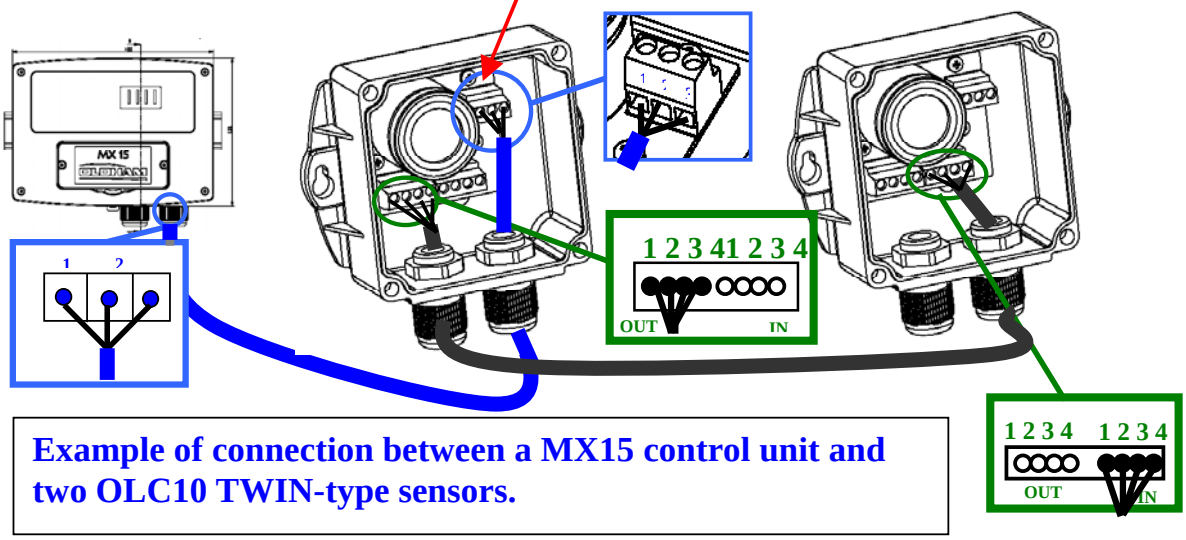
Connector of first sensor with 2 wires.



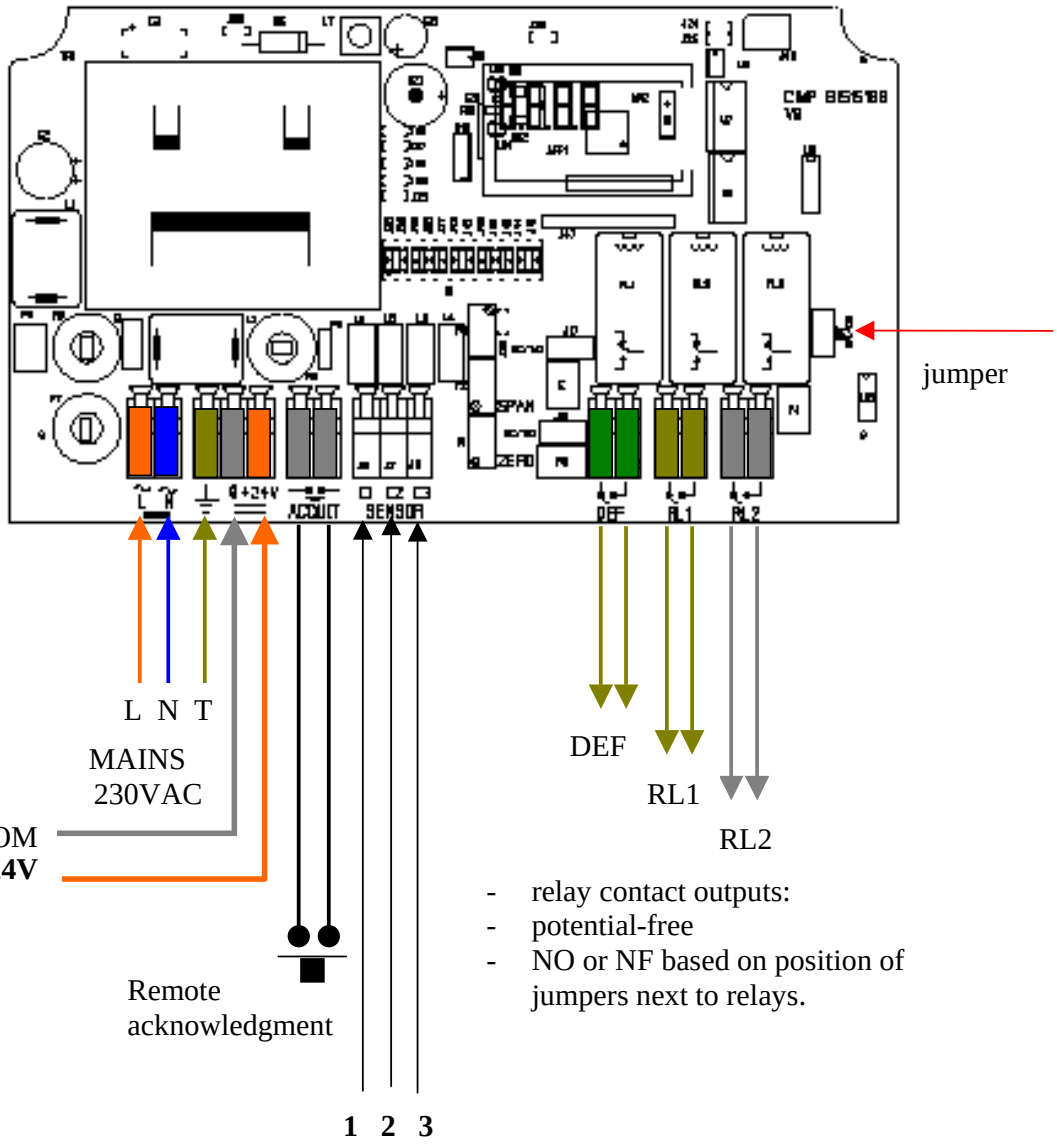
Example of connection between a MX15 control unit and two OLCT10-type sensors for detection of the same gas (maximum 5 sensors) .

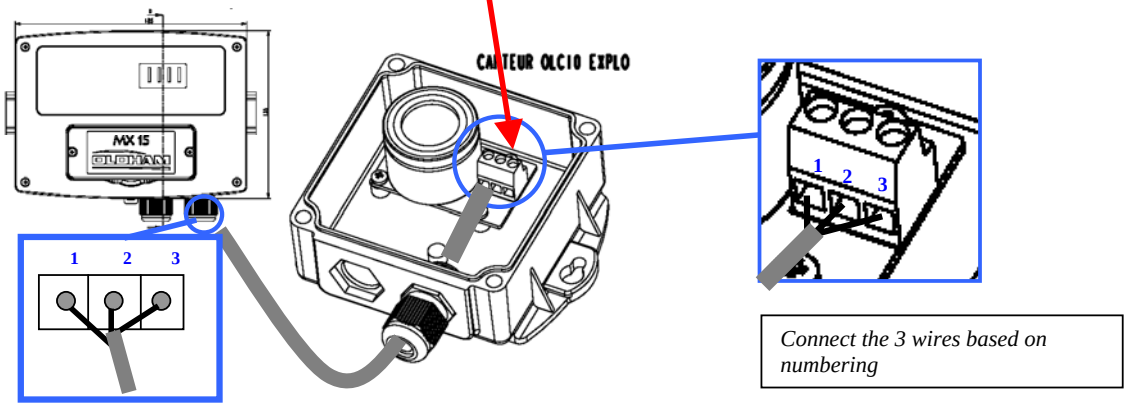


MX15 CONTROL UNIT



Example of connection between a MX15 control unit and two OLC10 TWIN-type sensors.





Example of connection with an EXPLO or TOXIC sensor with 3 active wires.

OLDHAM s'engage - OLDHAM undertakes

Parce que la sécurité des hommes et la protection de l'environnement sont notre priorité,
OLDHAM s'engage et définit ses normes qualité :
Because safety for personnel and protection of the environment are our priorities,
OLDHAM gives the following undertakings and defines its quality standards :

1 Les Plus

OLDHAM s'engage au travers de son personnel qualifié, à répondre rapidement et efficacement à vos besoins de conseil, de suivi de commande, et ce, partout dans le monde.
OLDHAM s'engage à répondre dans les plus brefs délais à toutes questions d'ordre technique.

2 Qualité

OLDHAM s'engage à vous assurer une qualité de produits et de services à la hauteur de vos exigences, conformément au cahier des charges de la norme **ISO 9001** et **ATEX**.

3 Fiabilité & Contrôles

OLDHAM s'engage à vous fournir un matériel fiable. La qualité de notre production est une condition essentielle à cette fiabilité. Elle est garantie grâce à des vérifications très strictes réalisées dès l'arrivée des matières premières, en cours et en fin de fabrication (tout matériel expédié est configuré selon vos besoins).

4 Mise en service

OLDHAM s'engage, si vous le désirez, à la mise en service de votre matériel par nos techniciens spécialisés. Un gage de sécurité supplémentaire.

5 Formation

OLDHAM s'engage à faire disposer aux utilisateurs de ses produits, d'un service de formation complet : plusieurs ingénieurs pédagogues, salle de conférences, matériels disponibles pour les manipulations, matériel informatique et de visualisation, etc.

6 Contrat d'entretien

OLDHAM s'engage à vous proposer des contrats d'entretien évolutifs au regard de vos besoins pour vous garantir une parfaite sécurité :

- une ou plusieurs visites par an, garantie totale ou partielle,
- renouvelable par tacite reconduction,
- incluant le réglage des centrales de mesure, l'étalonnage des appareils et le contrôle des asservissements.

7 Dépannage sur site

OLDHAM s'engage à faire intervenir ses techniciens du **Service Après Vente** rapidement. Ceci est possible grâce à la répartition judicieuse de nos agences en **France** et de nos agents à l'étranger.

8 Dépannage en usine

OLDHAM s'engage à traiter tout problème qui ne pourrait être résolu sur site par le renvoi du matériel en usine. Des équipes de **techniciens spécialisés** seront mobilisées pour réparer votre matériel, dans les plus brefs délais, limitant ainsi au maximum la période d'immobilisation.
Pour toute intervention du Service Après Vente en France, un numéro Indigo a été mis en place : le 0 825 842 843

1 *Strong points*

*Through its qualified personnel, **OLDHAM undertakes** to respond to your needs for advice and order follow-up services wherever in the world you may be.*
***OLDHAM undertakes** to answer all your technical questions as quickly as possible.*

2 *Quality*

***OLDHAM undertakes** to provide you with products and services of a quality that meets your requirements, in accordance with the specifications of **ISO 9001** and **ATEX** standards.*

3 *Reliability and inspections*

***OLDHAM undertakes** to supply you with reliable equipment. The quality of our production is essential to achieve reliability. Quality is ensured by extremely strict verifications carried out as soon as raw materials are received, during production and at the end of manufacture (all shipped equipment is configured to meet your requirements).*

4 *Start-up*

***OLDHAM undertakes** that our expert technicians will start up your equipment, if you so wish. This gives you the guarantee of additional safety.*

5 *Training*

***OLDHAM undertakes** to provide the users of its products with a complete training service : a number of engineers specialized as instructors, conference rooms, equipment available for practical exercises, computer equipment, display equipment, etc.*

6 *Maintenance contract*

***OLDHAM undertakes** to offer you open-ended maintenance contracts according to your needs so as to give you the guarantee of complete safety :*

- *one or more visits a year, comprehensive or partial warranty,*
- *renewal by tacit agreement,*
- *including the adjustment of measuring units, the calibration of equipment and the verification of servo-control systems.*

7 *Field servicing*

***OLDHAM undertakes** to send out its **After-Sales Service** technicians quickly for servicing on your site. This is made possible by the efficient network of our branches throughout **France** and other countries.*

8 *Factory repairs*

***OLDHAM gives the undertaking** that any problem that cannot be solved in the field will be dealt with by the return of the equipment concerned to our factory. Teams of **specialized technicians** are on hand to ensure the immediate repair of your equipment in the shortest possible time, so keeping downtimes for your equipment to a minimum.*
For any specific technical question, please contact our After-Sales Service (M. Miguel RIESGUO) : 00 33 3 21 60 80 80

OLDHAM Group

Usine et siège social :
Z.I. Est - rue Orfila
B.P. 417 - 62 027 ARRAS Cedex FRANCE
Tél. : 03 21 60 80 80 - Fax : 03 21 60 80 00
E-mail : information@oldham.fr

www.oldham.fr

Plant and head office :
Z.I. Est - rue Orfila
B.P. 417 - 62 027 ARRAS Cedex FRANCE
Tél. : 33 3 21 60 80 80 - Fax : 33 3 21 60 80 00
E-mail : export.department@oldham.fr

OLDHAM ITALIA S.R.L. Italia	OLDHAM CS Česká Republica	OLDHAM ROMANIA Romania	OLDHAM CH Switzerland	OLDHAM GAS DETECTION Ltd UK	OLDHAM GmbH WINTER Deutschland
(39) 011 38 013 71	(42) 02627 6476	(40) 21 222 4846	(41) 26 652 51 18	(44) 0 1782 20 8020	(49) 231 924 10
(39) 011 38 066 13	(42) 0222 728296	(40) 21 222 5037	(41) 26 652 51 19	(44) 0 1782 20 8228	(49) 231 924 125
paolo.pozzato@oldham.it	oldham@telecom.cz	eduard.docolin@fx.ro	info@oldham.ch	sales@oldham.biz	info@winter-gaswarn.de